WATER QUALITY ISSUES: THE NEED FOR A NEW APPROACH

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The Freshwater Foundation is a national nonprofit nonendowed organization established in 1968. Its goal is to translate and interpret freshwater issues and implications for the public. In that role, I have been asked to address water concerns, water issues relating to those concerns, alternative responses for addressing those concerns, and the implications of some of those alternatives.

Water Concerns

Water quality concerns in the United States are many. I will touch on only a few, to provide a sense of the diversity of challenges we face.

Surface Water

One area of concern involves lakes and rivers. The Clean Water Act in the '70s focused on cleaning up surface water. Great strides have been made, but we still face many surface water problems, including sewage dumping, algae blooms, acid rain, such exotic weeds as purple loosetrife and Eurasian water milfoil and such "solutions" as the treatment of lakes with copper sulfate.

Wetlands Depletion

Wetlands depletion is a concern throughout the country. Of 215 million acres of wetlands that existed in colonial times, only 93 million acres remain. We continue to deplete wetlands at the rate of 500,000 acres per year. In California alone, 5 million acres of wetlands have been reduced to about 280,000 acres. Ninety thousand of those remaining are unprotected.

Solid Waste

There are 18,500 municipal landfills in the United States that receive 135 million tons of waste per year. That represents 3.5 pounds per person per day or 1,300 pounds of solid waste per person per year going into our country's landfills.

Underground Tanks

Leaking underground storage tanks (LUST) are another growing concern. There are an estimated 1.4 to 2.5 million underground storage tanks in this country and estimates for how many are leaking range from 100,000 to 1 million. When we realize that 1 gallon of gasoline per day can significantly contaminate a water supply for 50,000 people, we then begin to understand the potential risk that these underground storage tanks represent.

Hazardous Waste

A 1986 study of hazardous waste sites indicated the following numbers: 885 current sites on the National Priorities List (NPL) with 2,500 anticipated as final NPL number; 7,900 confirmed hazardous waste sites with 30,000 suspected as hazardous waste sites; and 13,000 anticipated sites still to be identified for a total of nearly 54,000—each of which is a potential risk to those nearby.

In 1981 the United States Environmental Protection Agency (EPA) regulated 264,000,000 metric tons of hazardous waste—enough to fill the New Orleans Superdome 1,500 times.

We all need to realize that hazardous waste is not just "somebody else's problem." Household hazardous waste is also a major concern. Of those 1,300 pounds per person per year of municipal waste, it is estimated conservatively that every family disposes of at least 1 pound of hazardous waste per year along with that family's share of solid waste. That means for a landfill that services 20,000 families, 20,000 pounds, or 10 tons, of hazardous waste are dumped in that regular landfill. That is 10 tons of hazardous waste not being regulated in any way. In one Miami suburb, an "amnesty day" resulted in the collection of 12 tons of household hazardous waste which would otherwise have gone into garbage cans.

Groundwater and Drinking Water

Groundwater and drinking water are, of course, major and growing concerns among the entire country's population. Groundwater is the drinking water source for 50 percent of all Americans and for 97 percent of our rural population. Groundwater is a major drinking water source for thirty-two states and for 30 percent of our urban population. Of this country's one hundred largest cities, thirty-four of them rely completely or in part on groundwater as a drinking water source.

Agrichemicals

Another concern we face is agrichemical use. In 1952 there were 500 commercial chemicals on the market. Today that number totals

45,000. Seventeen pesticides have been found in groundwater in twenty-three states and nitrates have been found in 20 percent of wells tested throughout the country. Pesticide use has tripled since 1964.

Agrichemical use is not just a rural problem. In 1986 more than one-third of pesticides used were not used by farmers. This 1.1 billion pounds of agrichemicals used in 1986 was twice that used in 1964 for urban use. Ninety-one percent of American households use pesticides—and they use them at a higher per-acre rate than farmers do.

Water Concerns as Water Issues

Not all water concerns become water issues, but the potential for that occurring continues to increase. Water issues are many. They range from conflicting use questions, to priorities of use, to overlapping jurisdictions to an awareness of the "management maze" that we all face. In Minnesota alone, for example, there are more than 3,000 organizations that share management responsibilities for Minnesota's water resources. We may believe in the "committee approach," but the idea of that kind of a group coming together to agree is frightening indeed.

Other water issues include funding priorities, limited dollars, making "hard choices," and determining what doesn't get funded rather than what does get funded. Other issues include some of the major questions we are beginning to face: Who decides these difficult issues? Who pays? Who faces liability for water contamination? How clean is clean?

One of the major public issues we'll be facing in the future is risk: risk perception, risk communication and risk management. We also face a strong difference of opinion over regulatory versus voluntary approaches. Finally, we face many questions regarding federal versus state versus local rights and responsibilities.

These are only a few of the water issues we face and will continue to face in the future. And they won't be easily decided. Water issues are prime public policy issues, because virtually everyone has a vested interest in the outcome.

Traditional Responses—and Implications

We have employed a number of traditional responses to dealing with water quality issues and we have become well aware of the implications of these traditional responses. Many of them will no longer work as we look to new issues and the need to explore new responses to effectively addressing these issues.

More Federal Dollars

Traditionally, we have simply sought more federal dollars. We are all aware by now that there is little chance of this being a reasonable solution. Furthermore, with the federal deficit that we face, pursuing such a possibility is unethical to say the least.

Minimize Problems

Another approach has been to minimize the seriousness of problems or potential problems. The implication there is that, sooner or later, we will "get hit hard" and lose many options for appropriate response.

Deal Reactively

Another approach is to deal with problems reactively using "band-aids" to "solve" problems as they come up. The implication of that approach is that everything is done at great cost, that there is no end in sight and that we end up developing a fragmented, willy-nilly "policy" regarding water quality issues.

According to Senator Dave Durenberger, we spent in one recent year 200 times more dollars on cleanup than on prevention—$1.2 billion on Superfund cleanup versus $6 million directed to states for protection of groundwater.

The Freshwater Foundation recently completed a study of the economic impacts of groundwater contamination on twenty-one Minnesota municipalities and eighteen Minnesota businesses. That study resulted in verified groundwater contamination costs of at least $67 million, including costs for cleanup, new equipment, monitoring, legal fees, losses to tax base and real estate devaluation.

Expand Regulations

Another approach is to expand regulations, laws and penalties. The problem there is again greater costs, alienation of people and a removal of responsibility. The "just don't get caught" syndrome begins to kick in and we allow abdication of responsibility by those who should begin to become part of the solution.

Legislate Solutions

A final approach is to leave solutions to our country's legislators. That means we have to live with short-term responses, with two- or four-year mindsets. It's difficult to expect an elected official on election eve to say to his or her constituency, "I'm doing a lot of good long-term things for the environment. I know you haven't seen any results, but you will. Just trust me. And, by the way, vote for me to-

morrow." We really can't expect that of our legislators because the general public isn't yet ready to demand it. Politicians are very good at distributing pleasure. They aren't as good at allocating pain. And, furthermore, we as public citizens aren't prepared to accept pain. Walter Mondale tried it when he ran for president against Ronald Reagan. He told the truth. He promised to raise taxes—and he never got a chance to do it. The public is not ready for long-term solutions, so we cannot expect our legislators to foist them upon us.

Seeking Alternative Responses

We need to stop planning for an unknown future based on paradigms and mindsets of the past. The time is right for a new approach.

Russell Train, former EPA head and chairman of the Conservation Foundation, said in the latest issue of the *EPA Journal*:

> The nation is once again undergoing the national soul searching that accompanied the first Earth Day in 1970. Public concern is so strong that we can be said to be experiencing a fresh wave of environmentalism.

Recent public opinion polls indicate that two out of three Americans believe protecting the environment is so important that regulation standards cannot be too high and that continued environmental improvements must be made regardless of cost.

Louis Harris suggests that by 1992 or 1996 we will have a president "chosen and elected with a pro-environmental stance as his primary identification." I might suggest, Mr. Harris, that this stance might be his or her primary identification.

A new approach to water quality policy will require adopting some new paradigms:

1. We will become willing to define risk within a social, economic and political context as well as a scientific one. Science doesn't exist in a vacuum and science alone will never dictate public policy.

2. We will become willing to set policy and develop management practices "without all the data" because we'll never have "all the data." Research is an ongoing process; so too are management and policy.

3. We will recognize that effective water quality management will require new management structures based on resource boundaries, not political boundaries. As water bodies cross political boundaries, so too must our management approaches.

4. Economics and public health will become the driving forces behind water quality management decisions.

5. We will focus more on long-term rather than short-term solu-

tions. The public will begin to demand it, and our legislators will begin to respond.

6. We will begin to allocate pain, not just pleasure—recognizing that change brings change, that the status quo will be affected and that what has always been may not always be.

7. We will prepare to reprioritize. We will ask the hard questions and make the hard decisions. The 1988 State of the World report from the Worldwatch Institute suggests that the earth's current environmental decline could be halted with an international expenditure of $150 billion annually, a fraction of the $900 billion spent annually on the military. It's all a matter of priorities.

8. We'll continue to explore new funding sources such as cost-sharing, user fees and privatization.

As Dan Glickman said, "The public is in a right-to-know mode." We need to take advantage of this "right-to-know mode" and listen to the words of Thomas Jefferson:

> I know of no safe depository of the ultimate powers of the society but the people themselves, and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education.

Abraham Lincoln said much the same thing:

> With public sentiment, nothing can fail. Without it, nothing can succeed.

So how do we secure and assure the enlightened sentiment? I emphasize the word "enlightened" because public perception is not always truth. We need to recognize, however, that in the eyes of the public, perception *is* truth. It is, therefore, our role as public educators to be sure, as Thomas Jefferson said, that the public does get the truth.

So how do we accomplish this goal? Through a *three-step process* of *information*, *education* and *incentives to act.*

The *first step*, information, is fairly easy. We have lots of it. The problem is that much of it is unusable, unreadable, too heavy or gathering dust on shelves somewhere. Information in and of itself is stagnant and unusable.

It is the *second step*—education—that takes information and turns it into something usable. Education is a process. *Education is getting the appropriate information to the appropriate audience in appropriate ways at appropriate times.* That speaks of the concept of the teachable moment. Education can change attitudes. Information cannot. Education changes attitudes and it is critical to the process but, as Fred Woods said, "Education is not a costless undertaking."

Unfortunately, many people realize that research costs money, but not as many people realize that education costs money too.

The *third step* in this process focuses on providing incentives to act. *Education can change attitudes, but it takes incentives to change behavior.* We need to constantly consider the audience's needs, the audience's "enticements." We need to constantly answer the audience's question, "What's in it for me?" Incentives to act may take the form of a water rate increase to encourage conservation or financial incentives to encourage farmers to risk new management practices. Incentives to act may be as simple as clearly spelling out the implications of various choices to the public.

These three steps have to work together. All three—information, education and incentives to act—are needed to adequately prepare the public to determine its own destiny.

One more thought on paradigm shifts. John Naisbitt, in *Megatrends*, said the following:

> Centralized structures are crumbling all across America, but our society is not falling apart. Far from it. The people of this country are rebuilding America from the bottom up into a stronger, more balanced, more diverse society.

It's happening, it's exciting and the potential is unlimited—for extension, for public involvement and for society—to *grow up* rather than *grow old.*

Then, finally, a word on behalf of coalition-building. Joe Rossillon, former president of the Freshwater Foundation, issued a clear, succinct challenge to us all:

> If you can, mandate;
> If you must, legislate;
> If all else fails, cooperate.

We have a lot to do, but I sincerely believe that, working together, we are up to the task. The future of our water resources—and our own future as well—depends on it.